

MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

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No. 6

Sir R. S. BALL, M.A., LL.D., F.R.S., President, in the Chair.

Captain Vernon L. D. Broughton, Hillside, Godstone, Surrey ;
 Charles Friswell, 34 Madeley Road, Ealing, W. ;
 Professor C. J. Joly, M.A., Royal Astronomer of Ireland,
 The Observatory, Dunsink, co. Dublin ; and
 William Ritchie, 75 Morningside Road, Edinburgh,

were balloted for and duly elected Fellows of the Society.

The following candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended :—

Henry Ellis, Little Heath, Potter's Bar (proposed by J. G. Petrie) ;
 Peter Matthews, Solicitor, 102 Fenchurch Street, E.C., and
 65 Gordon Mansions, W. (proposed by Thomas Mackenzie) ;
 Captain P. B. Molesworth, R.A., Trincomali, Ceylon (proposed by E. W. Maunder) ;
 W. J. Reynolds, 61 Fairholt Road, Stamford Hill, N. (proposed by F. W. Dyson) ; and
 William Edward Sparkes, Stockbroker, 5 Roker Terrace, Sunderland (proposed by Cuthbert Hutchinson).

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Sixty-eight presents were announced as having been received since the last meeting, including amongst others :—

Ph. Fauth, *Beobachtungen der Planeten Jupiter und Mars*, 1896–97, III. ; J. N. Krieger, *Mond-Atlas*, Band I. ; A. Stanley Williams, *Catalogue of the magnitudes of 1081 southern stars*, presented by the authors ; Paris Observatory, *Atlas photographique de la lune*, par MM. Lœwy et Puiseux, fasc. 2 ; Potsdam Observatory, *Publicationen*, Band XI. ; presented by the Observatories ; Set of transparencies from negatives of the total solar eclipse of 1898 January 22, presented by the Astronomer Royal ; Photographs of the total solar eclipse of 1898 January 22, presented by C. Thwaites.

The Spectrum of α Ceti as photographed at Stonyhurst College Observatory. By the Rev. Walter Sidgreaves, S.J.

The series of photographs of the spectrum of α Ceti, obtained during the recent favourable period of its maximum light, consists of 20 plates, on 15 nights, beginning with 1897 November 18, and ending on 1898 February 5. Six of these were taken in November on the dates 18, 23, 24, 28, 29 ; twelve in December on dates 1, 2, 11, 15, 19, 24, 25, 28, 30 ; one on January 7, and one on February 5.

All the photographs are upon Edwards' Isochromatic plates, excepting the one of December 30, which is on a Mawson plate. All are good photographs ; but the accompanying tables of wavelengths (p. 348), and the map of the spectrum (plate 3),* are formed upon one plate, that of November 29, supplemented, in the violet, by the Mawson plate of December 30. These were judged to be the best of the series. Eleven other plates were selected for measures of the sharp edges of the bands, to serve as a check upon the scale readings used for the map and tables.

The map has been executed with the greatest care, to represent as closely as possible the relative radiation-energy of each part of the spectrum as it arrives upon the plate, allowance being made everywhere for the sensibility curve of Edwards' Isochromatic plate ; and this curve has been estimated upon the supposition of uniform energy at all the parts of the spectrum of α Tauri.

The spectrum has apparently remained substantially constant during the period of observation. But a marked change in the relative intensities of the yellow-green and the blue radiations

* Two photographic mounts presented to the Society with this Paper are reproduced as Plate 1 and Plate 2. They are direct enlargements from the original negatives, widened by a cylindrical lens. All the lines have been verified by comparison with enlargements made without the cylindrical lens. They do not show all the details of the original negatives.